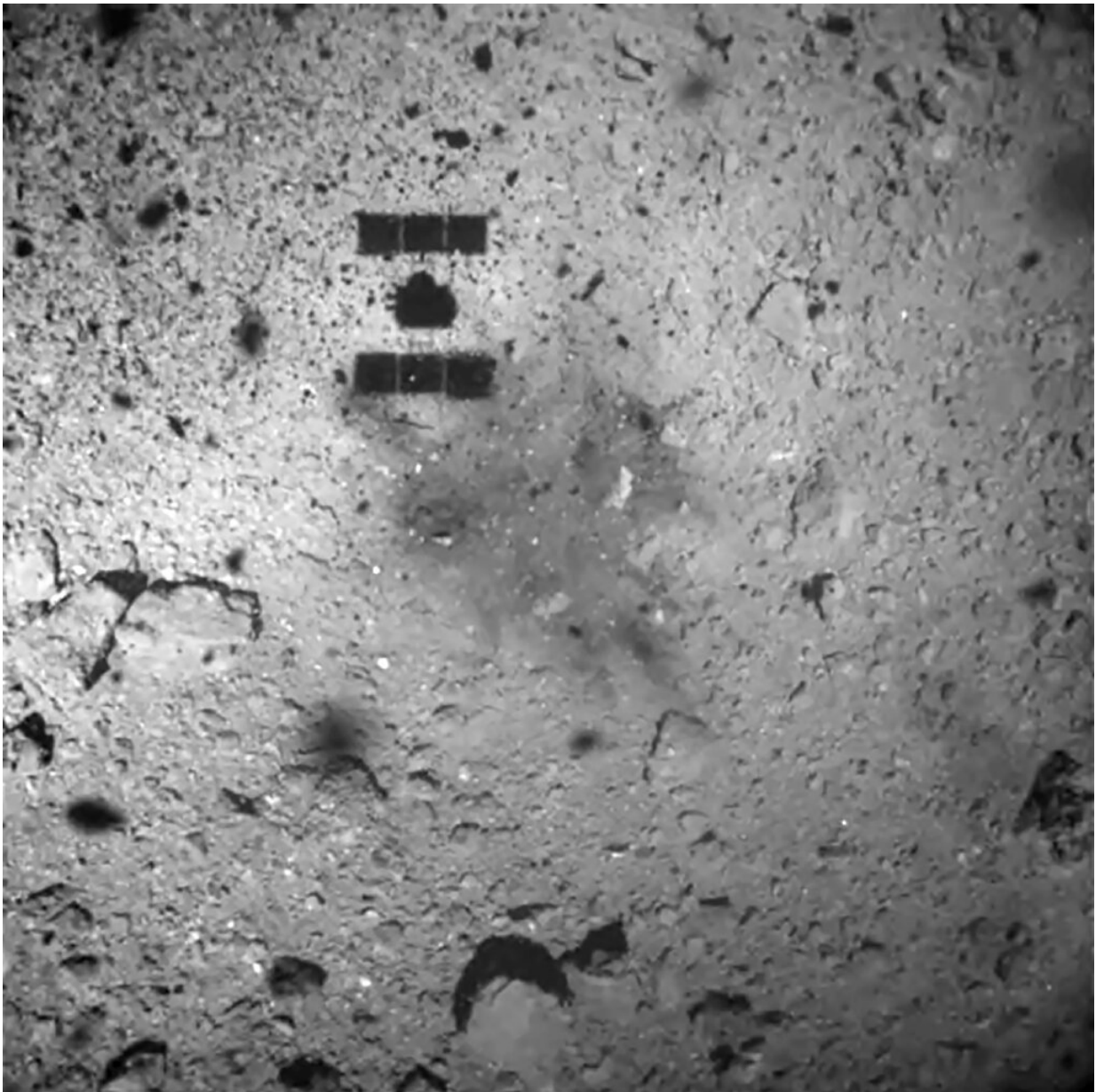


# Japan creates first artificial crater on asteroid

April 25 2019

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Japan's Hayabusa2 mission aims to shed light on how the solar system evolved

Japanese scientists have succeeded in creating what they called the first-ever artificial crater on an asteroid, a step towards shedding light on how the solar system evolved, the country's space agency said Thursday.

The announcement comes after the Hayabusa2 probe fired an explosive device at the Ryugu asteroid early this month to blast a [crater](#) in the surface and scoop up material, aiming to reveal more about the [origins of life](#) on Earth.

Yuichi Tsuda, Hayabusa2 project manager at the Japanese [space agency](#) (JAXA), told reporters they confirmed the crater from images captured by the probe located 1,700 metres (5,500 feet) from the asteroid's surface.

"Creating an artificial crater with an impactor and observing it in detail afterwards is a world-first attempt," Tsuda said.

"This is a big success."

NASA's Deep Impact probe succeeded in creating an artificial crater on a comet in 2005, but only for observation purposes.

Masahiko Arakawa, a Kobe University professor involved in the project, said it was "the best day of his life".

"We can see such a big hole a lot more clearly than expected," he said, adding the images showed a crater 10 metres in diameter.

JAXA scientists had previously predicted that the crater could be as

large as 10 metres in diameter if the surface was sandy, or three metres if rocky.

"The surface is filled with boulders but yet we created a crater this big. This could mean there's a scientific mechanism we don't know or something special about Ryugu's materials," the professor said.

The aim of blasting the crater on Ryugu is to throw up "fresh" material from under the asteroid's surface that could shed light on the early stages of the [solar system](#).

The asteroid is thought to contain relatively large amounts of organic matter and water from some 4.6 billion years ago when the solar system was born.

In February, Hayabusa2 touched down briefly on Ryugu and fired a bullet into the surface to puff up dust for collection, before blasting back to its holding position.

The mission, with a price tag of around 30 billion yen (\$270 million), was launched in December 2014 and is scheduled to return to Earth with its samples in 2020.

Photos of Ryugu—which means "Dragon Palace" in Japanese and refers to a castle at the bottom of the ocean in an ancient Japanese tale—show the asteroid has a rough [surface](#) full of boulders.

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